

Work Order ID 69152

Tuesday, May 03, 2011 12:58:38 PM



Page 1

Item ID: D350-636-013

Accept



Setup Start



Revision ID:

Item Name: Skidtube LH

Stop



Start Date: 5/3/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/17/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

H

Date: *105-3*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ *
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3492

C

IIN-D350-636

H

100

0.00



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy blue file and type labels per PPP D350-636-013 CHG 006

8.6.06/15

**J for BG 11-6-15*

69152

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-3 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8- Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)

9- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10- Open up holes of Detail A to 0.297" (total of 2 holes per side)

BB 11/05/13

BB 11/05/16

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004A/R Aluminum Rod batch: ☐

M116577

BE 11/05/17

12-Grind welds flush as per Dwg D2750

B 11/05/18

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

11.05.18

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

11.05.18

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				1	0	1105/18	
150 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							DP 11-5-25

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
	Skidtubes								
Skidtubes	Memo	0.00							
	1-Open up holes section AW-AW 0.500" (4 per side) as per dwg D2750								
	2- Open holes section AV-AV 0.3125" (4 per side)								
	3-Open up holes of Detail T and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.								
	4-Chamfer holes of section AW-AW, AV-AV, T and ground handling. (welding instructions on sheet 10)								
	5-Deburr and blow out all chips from inside of tube. Prepare tube for welding, remove alodine as required.								
	6-Bond web D2739 in place as per QSI 015 A/R <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Sikaflex-291 batch: 117516 exp. date: 12/01/15								
	7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 10) A/R <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Aluminum Rod batch: M116577 / M117456								
	8-Grind welds flush as per Dwg D2750								
	9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750								
	10-Deburr holes								

BB

u/05/25

D70

u/05/25

BE 11/05/30

BB u/05/31

W/O:		WORK ORDER CHANGES					
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-636-013 PAR #: N/A Fault Category: Spindle Tube NCR: Yes No DQA: 11 Date: 11.06.21
 11-1675 Resolution: Rework Disposition: Rework QA: N/C Closed: OK Date: 11/06/21

NCR: 69152		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11.05.24	160	Ø0.313 HOLE (NEXT TO MID FLAT HOLES) WAS DRILLED Ø0.500 PC. LQA.	CP 11.05.24 Ø51042	INSTALL Ø0.500 O.D. x Ø0.496 I.D. CROSSBOLT SPACER; M6X16T, M6X16T. B/N. 117379 3.085 to 3.090 LONG SIMILAR TO D3490-5	BF 11/05/30	S w/6612	CP 11.05.24 Ø51042	S 11/06/01

NOTE: Date & initial all entries

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Stop



Start Date: 5/3/2011 Start Qty: 1.00



Cust Item ID:

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC10- Inspect visual per QSI004- ground welds

0.00

0.00 *8 u06/01*

QC

Memo

Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00

0.00 *8 u06/01*

QC

Memo

Quality Control

190

Pressure Wash per QSI005 4.3

0.00



0.00

HandFinish

Memo

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

IX D m 11/06/01

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 5/17/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200 Powdercoat Powder Coating M 116964	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo START TIME: 9:00 OVEN TEMPERATURE: 320 FINISH TIME: 9:30	0.00 0.00 OF							1X ✓ M-11/06/06
210 QC Quality Control	QC3- Inspect Part Finish Memo Inspect for foreign object per QSI 024	0.00 0.00							1 BR 11-6-14
220 HandFinish Hand Finishing	HandFinishing Memo 1-Install inserts as per dwg D2750	0.00 0.00							1 BR 11-6-14

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230



HandFinish

Hand Finishing

HandFinishing

Memo

0.00

0.00

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: _____

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: 116945

EXP DATE: 12-01

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 114189

5-Coat all exposed fasteners with "LPS Procyon" batch: 14596

1 BL 11-6-15

240



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

8 11/26/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

11/4/11

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

Suloc 115

FD

270

Packaging

0.00



Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-013

C4/6/11

New I

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/6/20

MF
11-06-16

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH



Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec IPP Rev:L
 10.06.22 revise seq110 DD verf:EC IPP Rev:M 10.10.01 as
 per IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-3-BENT

Manufactured No

110

Each

23.0000

1

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

23

66874

1

66875

8

68137

10

68138

4

D3493-1

Manufactured No

110

Each

33.0000

2

2



Washer

Location

Loc Qty

Loc Code

ST062

33

66975

33

D2739

Manufactured No

160

Each

14.0000

1

1



350 I Beam

Location

Loc Qty

Loc Code

LG

14

67785

2

68285

6

68286

6

11/05/13
 11/16/15
 11/05/25

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Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

D2744

Manufactured No

160 Each

37.0000 1 1



Cap



BE 11/05/17

Location

Loc Qty

Loc Code

LG002

37

62715

8

65086

29

D3490-1

Manufactured No

160 Each

93.0000 4 4



Cross Bolt Spacer



BE 11/05/30

Location

Loc Qty

Loc Code

LG

91

67773

31

68105

60

LG001

2

62450

2

D3490-5

Manufactured No

160 Each

74.0000 4 4



Cross Bolt Spacer



BE 11/05/30

Location

Loc Qty

Loc Code

LG001

74

46490

18

59230

56

D2743

Manufactured No

220 Each

187.0000 8 8



Crossbolt Spacer



BE 11/05/30

Location

Loc Qty

Loc Code

LG001

187

67766

123

68251

64

8

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Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

230

Each

1,069.000

38

38



Insert

Location

Loc Qty

Loc Code

FP-B

117717.

28

110768

28

ST282

1041

110768

1041

10
28 BK 11-6-15.

AN3C5A

Purchased

No

230

Each

1,332.000

34

34



Bolt

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1325

115422

49

116419

376

116549

100

117343

500

117508 ✓

300

34 BK 11-6-15.

AN3C6A

Purchased

No

230

Each

300.0000

4

4



BOLT

Location

Loc Qty

Loc Code

FP-A

1

111982

1

ST351

299

111982

2

116419

47

116549

50

116704

100

117514 ✓

100

4 BK 11-6-15.

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Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

86.0000

4

4



BOLT



Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

84

116874

4

117407 ✓

80

4 BR 11-6-15.

AN8C35A

Purchased

No

230

Each

70.0000

1

1



BOLT



Location

Loc Qty

Loc Code

FP

40

117511

40

FP-A

30

115960

7

116874 ✓

23

1 BR 11-6-15.

AN960C10L

NAS1149C0332
R

Purchased

No

230

Each

0.0000

38

38



washer

AN960C816L

Purchased

No

230

Each

0.0000

1

1



WASHER



38 BR 11-6-15.

1 BR 11-6-15.

NAS 1149C08322
114915

* NAS 1515 H3L

113362

4. BR 11-6-14.

Tuesday, May 03, 2011 12:58:48 PM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, May 03, 2011 12:58:48 PM

Page 5

Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230 Each

214.0000 8 8



Bushing

Location

Loc Qty

Loc Code

FP-A

214

67764

13

68248 ✓

201

8 BR 11-6-15
1

D3488-041

Manufactured No

230 Each

4.0000 1



Blade Fitting Assembly, LH

Location

Loc Qty

Loc Code

FP007

1

61689

1

FP008

68108

3

62002

3

1 BR 11-6-15.

D3492-1

Manufactured No

230 Each

0.0000 8



Plug

69531

8 BR 11-6-15.

D3492-5

Manufactured No

230 Each

0.0000 8



Plug

D3492-45

69533.

6 BR 11-6-15.

D3535-25

Manufactured No

230 Each

18.0000 1



Wearshoe

Location

Loc Qty

Loc Code

FP018

18

62233

1

65167

6

68353 ✓

11

1 BR 11-6-15.

Tuesday, May 03, 2011 12:58:49 PM

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Page 5

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, May 03, 2011 12:58:49 PM

Page 6

Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

D3536-25 Manufactured No 230 Each 37.0000 1 1
Gasket

Location	Loc Qty	Loc Code
FP012	37	
65903	11	
68351 ✓	26	

1 BR 11-6-15

D3537-1 Manufactured No 230 Each 39.0000 3 3
Wearpad

Location	Loc Qty	Loc Code
FP017 69187	39	
63313	2	
66135	33	
66935	4	

3 BR 11-6-15

D3631-1 Manufactured No 230 Each 500.0000 8 8
Washer

Location	Loc Qty	Loc Code
ST072	500	
68062 ✓	500	

8 BR 11-6-15

D3791-1 Manufactured No 230 Each 8.0000 1 1
Wearplate

Location	Loc Qty	Loc Code
FP017 68502	8	
62239	8	

1 BR 11-6-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, May 03, 2011 12:58:49 PM

Page 7

Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

D3793-1
Wearshoe

Manufactured No

230 Each

15.0000

1 1

Location

Loc Qty

Loc Code

FP018

15

61710

1

64445 ✓

14

D3793-3
Wearshoe

Manufactured No

230 Each

23.0000

1 1

Location

Loc Qty

Loc Code

FP018

13

68356

13

FP019

10

64447 ✓

10

D3794-1
Gasket

Manufactured No

230 Each

33.0000

1 1

Location

Loc Qty

Loc Code

FP010

33

39279

1

39421

1

61704

5

68355 ✓

26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Picklist Print

Tuesday, May 03, 2011 12:58:49 PM

Page 8

Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

D3794-3

Manufactured No

230

Each

35.0000

1

1



Gasket



Location

Loc Qty

Loc Code

FP010

26

68357 ✓

26

FP018

9

39422

1

61712

8

MS21043-6

Purchased

No

230

Each

527.0000

4

4



NUT



Location

Loc Qty

Loc Code

FG

20

103693

20

FP-A

44

112314

44

ST301

463

112314 ✓

463

MS21083C8

Purchased

No

230

Each

91.0000

1

1



NUT



Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST303

90

115884

0

117291

40

117423 ✓

50

1 BR 11-6-15.

4 BR 11-6-15.

1 BR 11-6-15.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

230

Each

216.0000

8

8



O-RING

Location

Loc Qty

Loc Code

FP002

216

106099 ✓

111

114220

105

8. BL 11-6-15.

NAS1611-010

Purchased

No

230

Each

266.0000

8

8



O-RING

Location

Loc Qty

Loc Code

FP

80

117460 ✓

80

FP-A

186

110915

139

115589

47

8. BL 11-6-15.

AN8C21A

Purchased

No

260

Each

78.0000

2

2



BOLT

Location

Loc Qty

Loc Code

ST345

78

116381

28

117562

50

2

AN960JD816

Purchased

No

260

Each

45.0000

2

2



1/2" washer, Alum

Location

Loc Qty

Loc Code

FP-A

45

106043

45

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, May 03, 2011 12:58:50 PM

Work Order ID: 69152

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 5/3/2011

Required Date: 5/17/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

260 Each

45.0000 1



Blade, 350 Skidtube



SP

Location

Loc Qty

Loc Code

ST466

45

61341

7

63589

38

D3672-1

Manufactured No

260 Each

1,379.000 8



Phenolic Washer



8

Location

Loc Qty

Loc Code

FP-A

29

52505

29

ST074

1350

64177

850

66821

500

MS21083C8

Purchased No

260 Each

91.0000 2



NUT



2 11/6/15 SP

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST303

90

115884

0

117291

40

117423

50

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

5

4

3

2

1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-5	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 69152
P/11-08-13

RELEASED
69-07-12-14

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS. CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741. QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>PH</i>		
DRAWN	<i>PH</i>		
CHECKED	<i>PH</i>		
MFG. APPR.	<i>PH</i>		
APPROVED	<i>PH</i>		
DE APPR.	<i>PH</i>		
DATE	08.07.16		
DART AEROSPACE USA, INC. PORT HADLOCK, WA			
DRAWING NO. D2750		REV. F SHEET 1 OF 11	
TITLE 350 SKIDTUBE ASSEMBLY		SCALE NTS	
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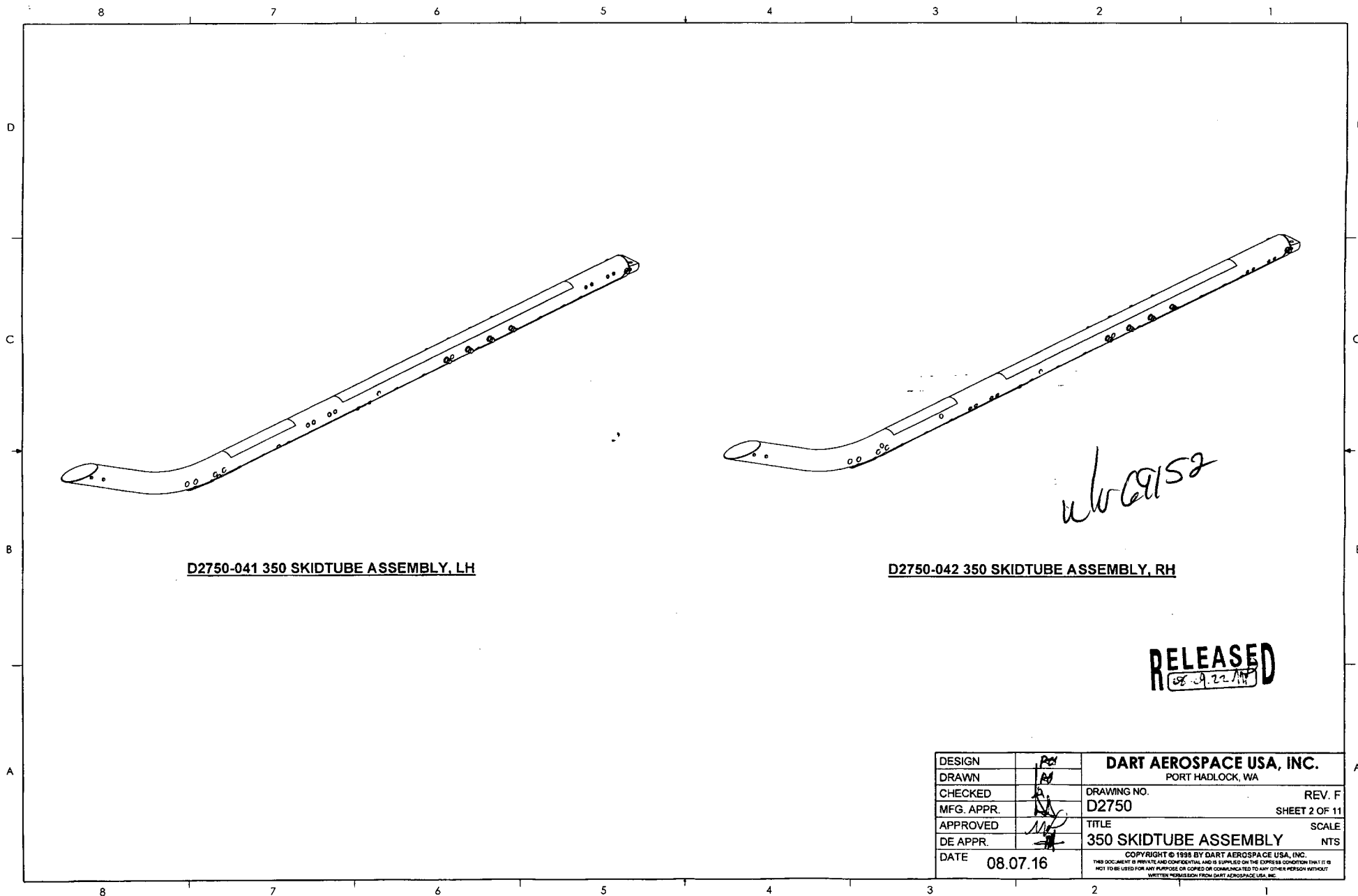
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



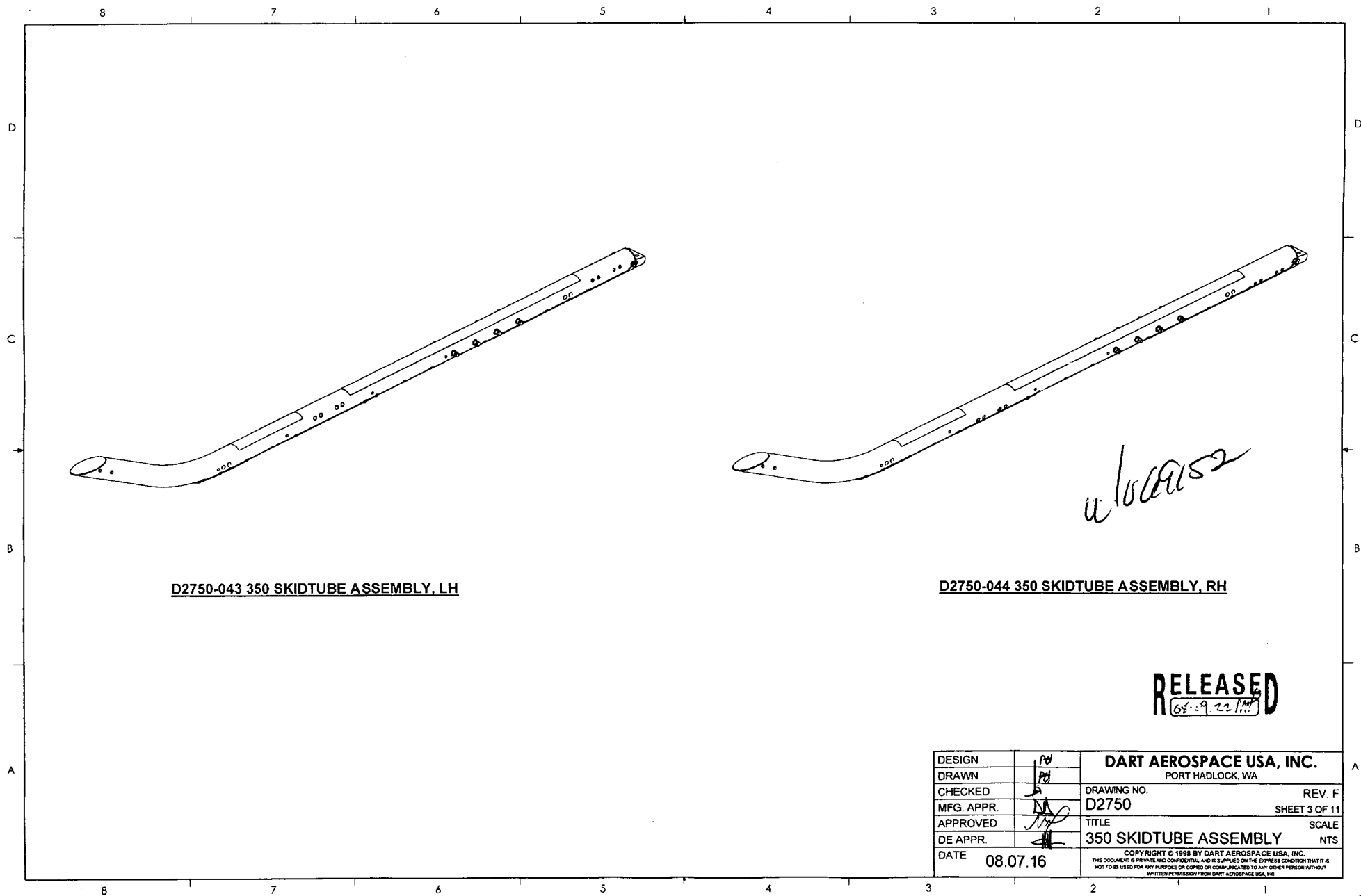
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
68-09-22/100

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DRAWN	PD	PORT HADLOCK, WA	
CHECKED	NA	DRAWING NO.	REV. F
MFG. APPR.	NA	D2750	SHEET 3 OF 11
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

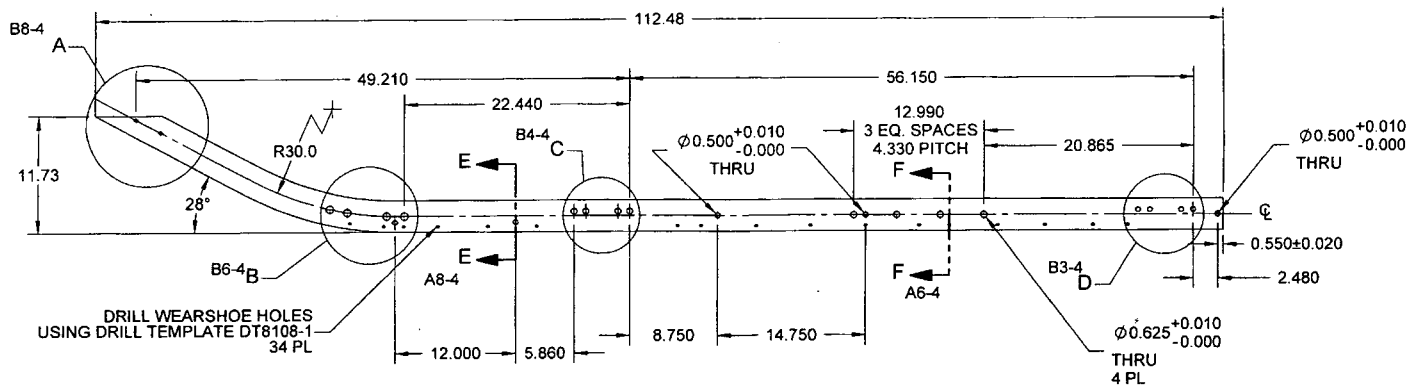
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

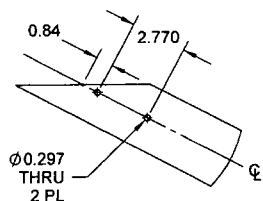
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

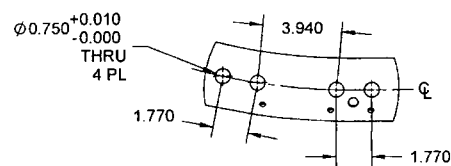
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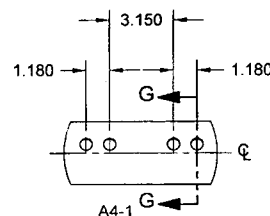
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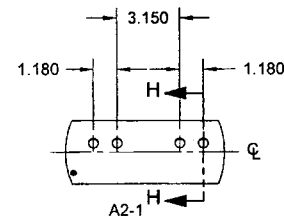
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SCALE 2X



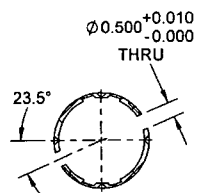
DETAIL B
SCALE 2X



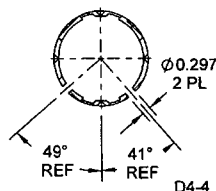
DETAIL C
SCALE 2X



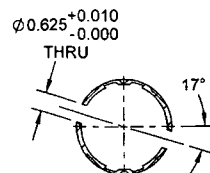
DETAIL D
SCALE 2X



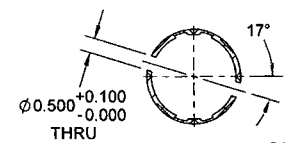
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

DESIGN	IP#
DRAWN	IP#
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DE APPR.	IP#
DATE	08.07.16

DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWING NO. D2750	REV. F
TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
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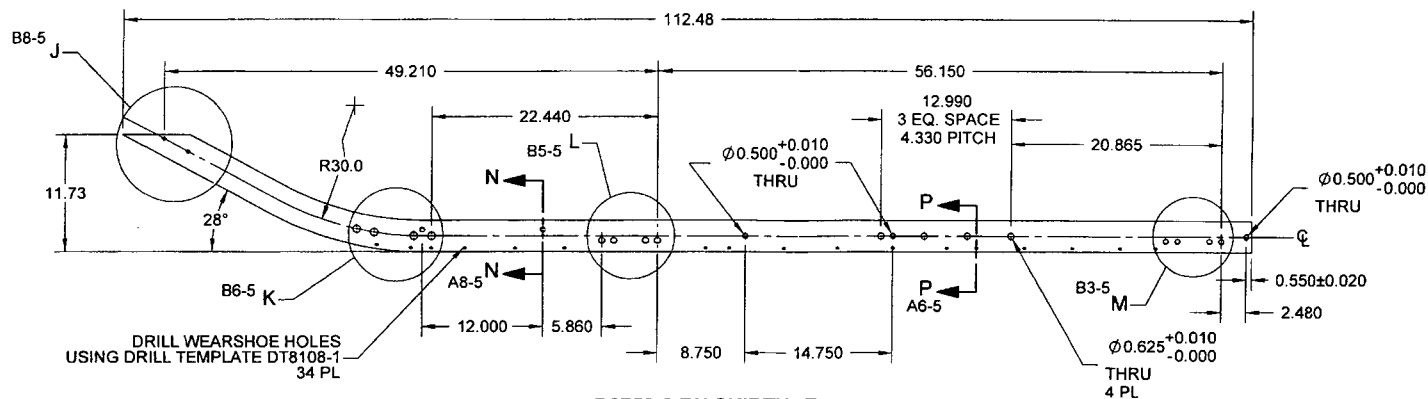
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

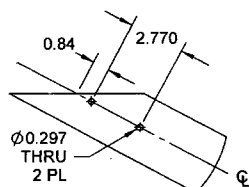
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

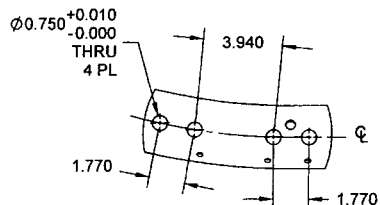
NOTE: Date & initial all entries



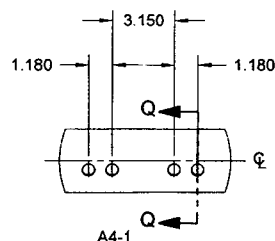
D2750-2 RH SKIDTUBE



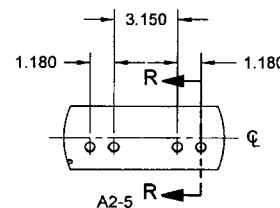
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SCALE 2X



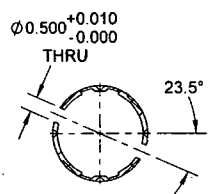
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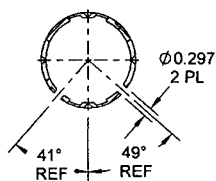
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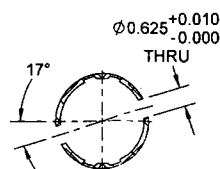
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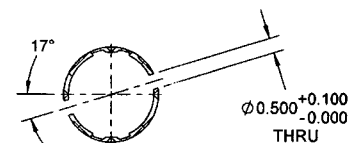
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

DESIGN	PA
DRAWN	PA
CHECKED	PA
MFG. APPR.	PA
APPROVED	PA
DE APPR.	PA
DATE	08.07.16

DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO. **D2750** REV. F
TITLE **350 SKIDTUBE ASSEMBLY** SCALE NTS
SHEET 5 OF 11

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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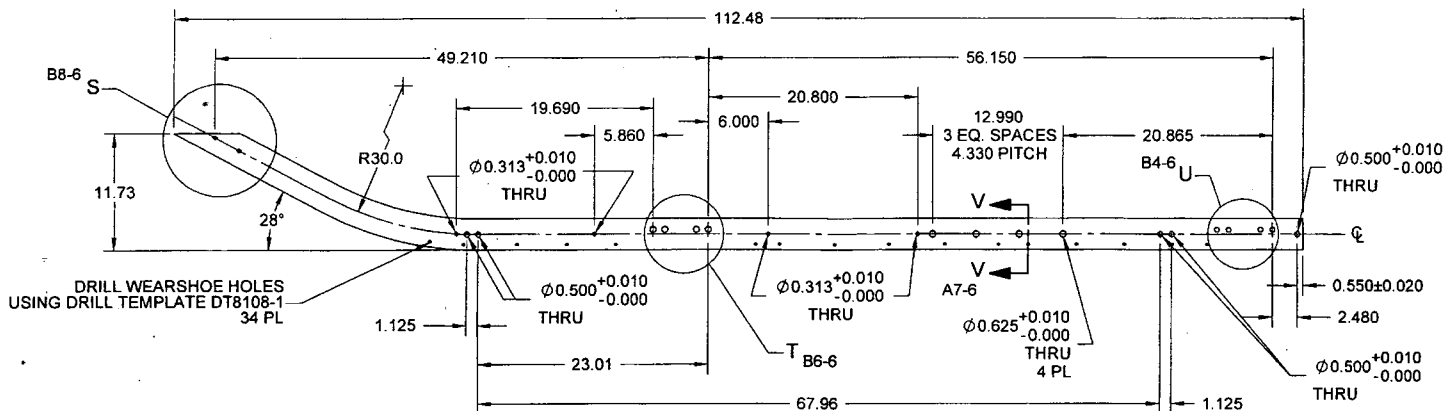
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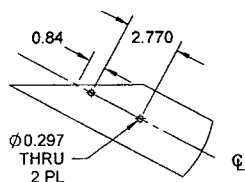
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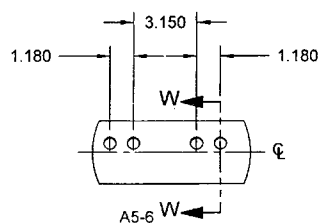
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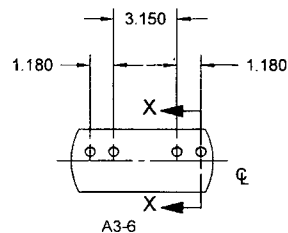
D2750-3 LH SKIDTUBE



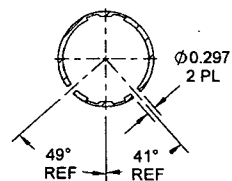
DETAIL S
D8-6
SCALE 2X



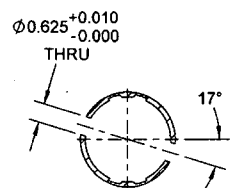
DETAIL T
C5-6
SCALE 2X



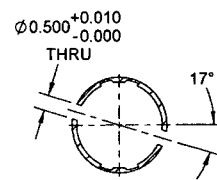
DETAIL U
D3-6
SCALE 2X



SECTION V-V
C4-6
SCALE 3X, 17 PL




SECTION W-W
B6-6
SCALE 3X, 4 PL



SECTION X-X
B4-6
SCALE 3X, 4 PL

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DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 6 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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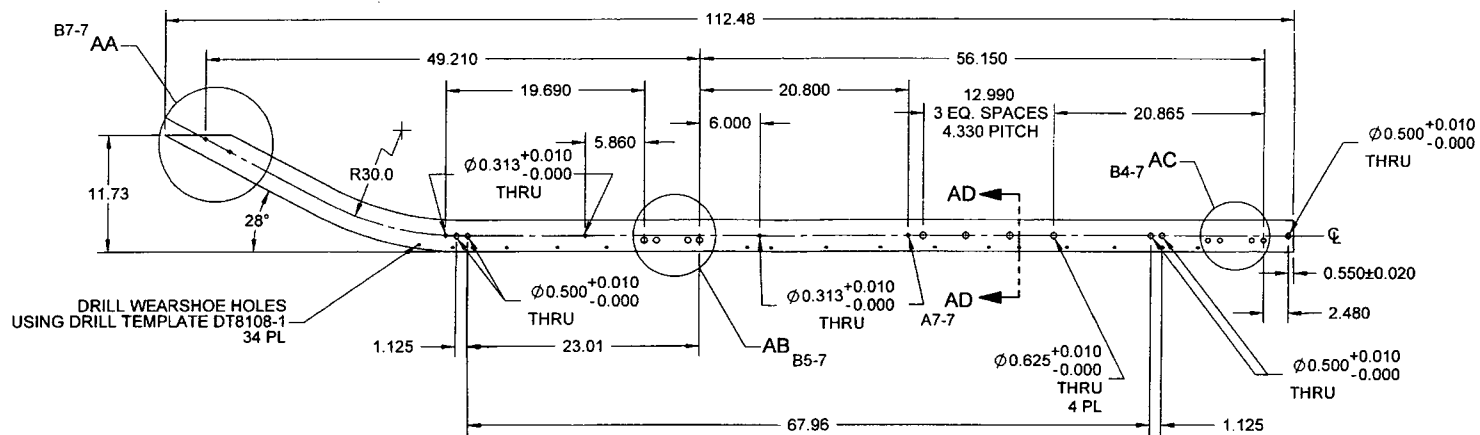
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

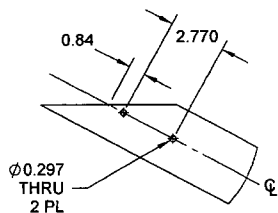
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

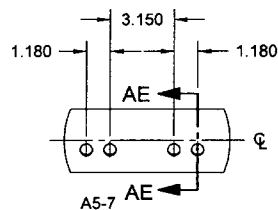
NOTE: Date & initial all entries



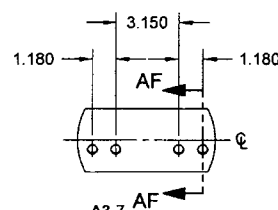
D2750-4 RH SKIDTUBE



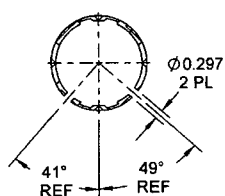
DETAIL AA
SCALE 2X



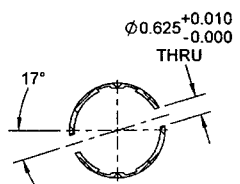
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SCALE 2X



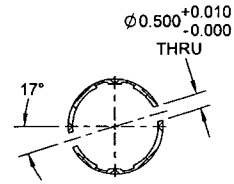
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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08-09-22

DESIGN	PA	DART AEROSPACE USA, INC.	
DRAWN	REF	PORT HADLOCK, WA	
CHECKED	5	DRAWING NO.	REV. F
MFG. APPR.	14	D2750	SHEET 7 OF 11
APPROVED	14	TITLE	SCALE
DE APPR.	14	350 SKIDTUBE ASSEMBLY	NTS
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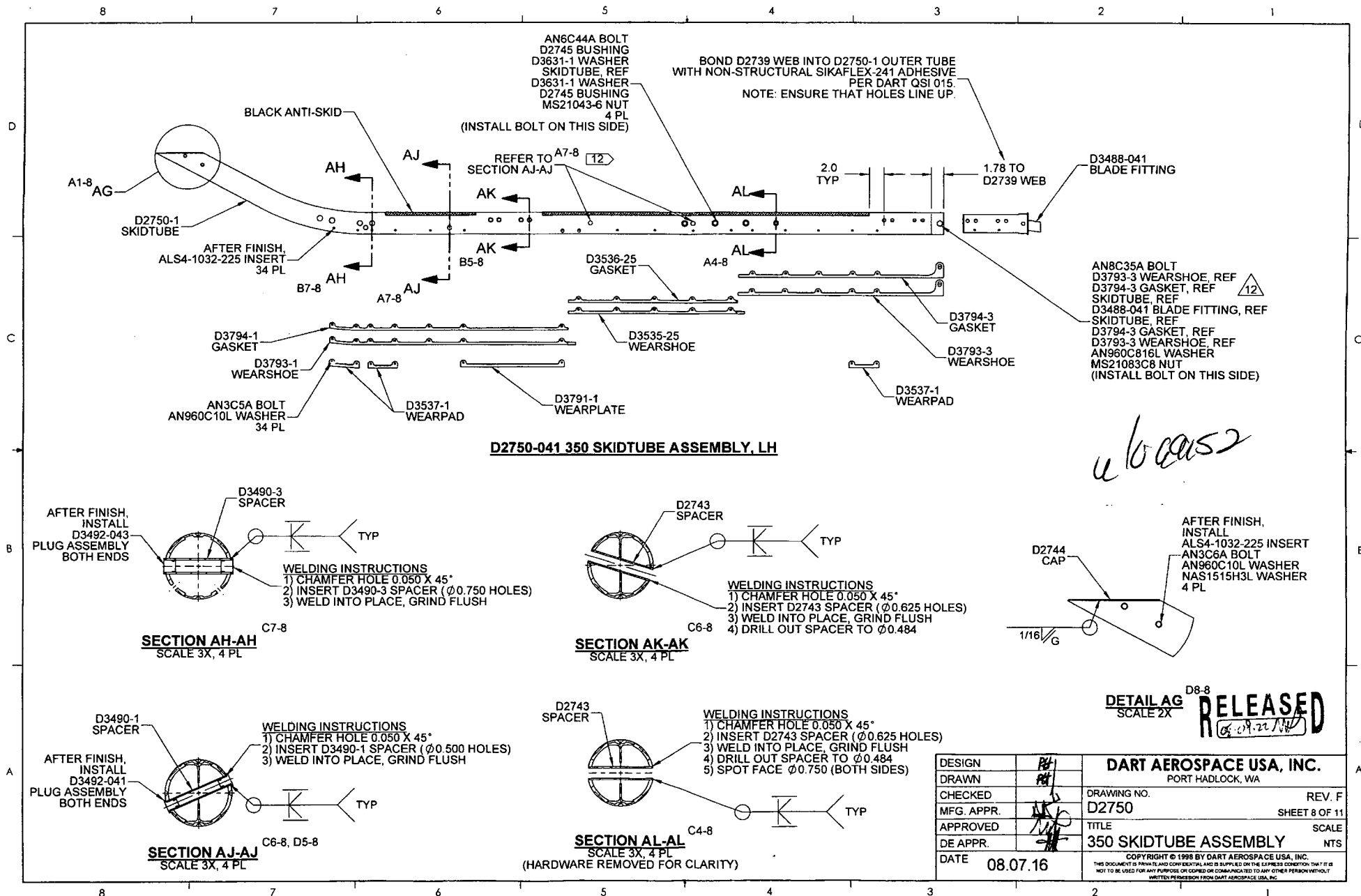
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NOTE: Date & initial all entries



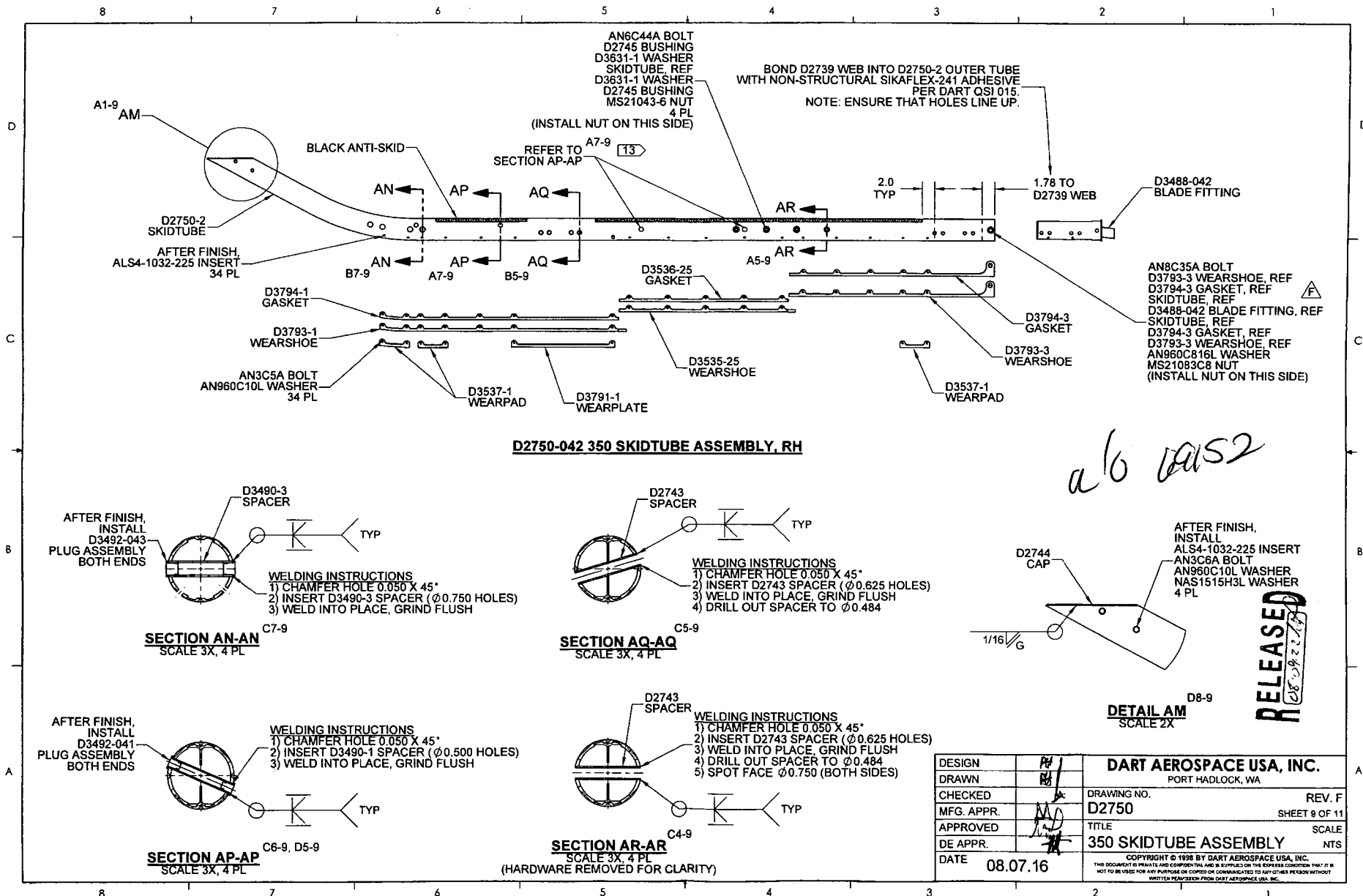
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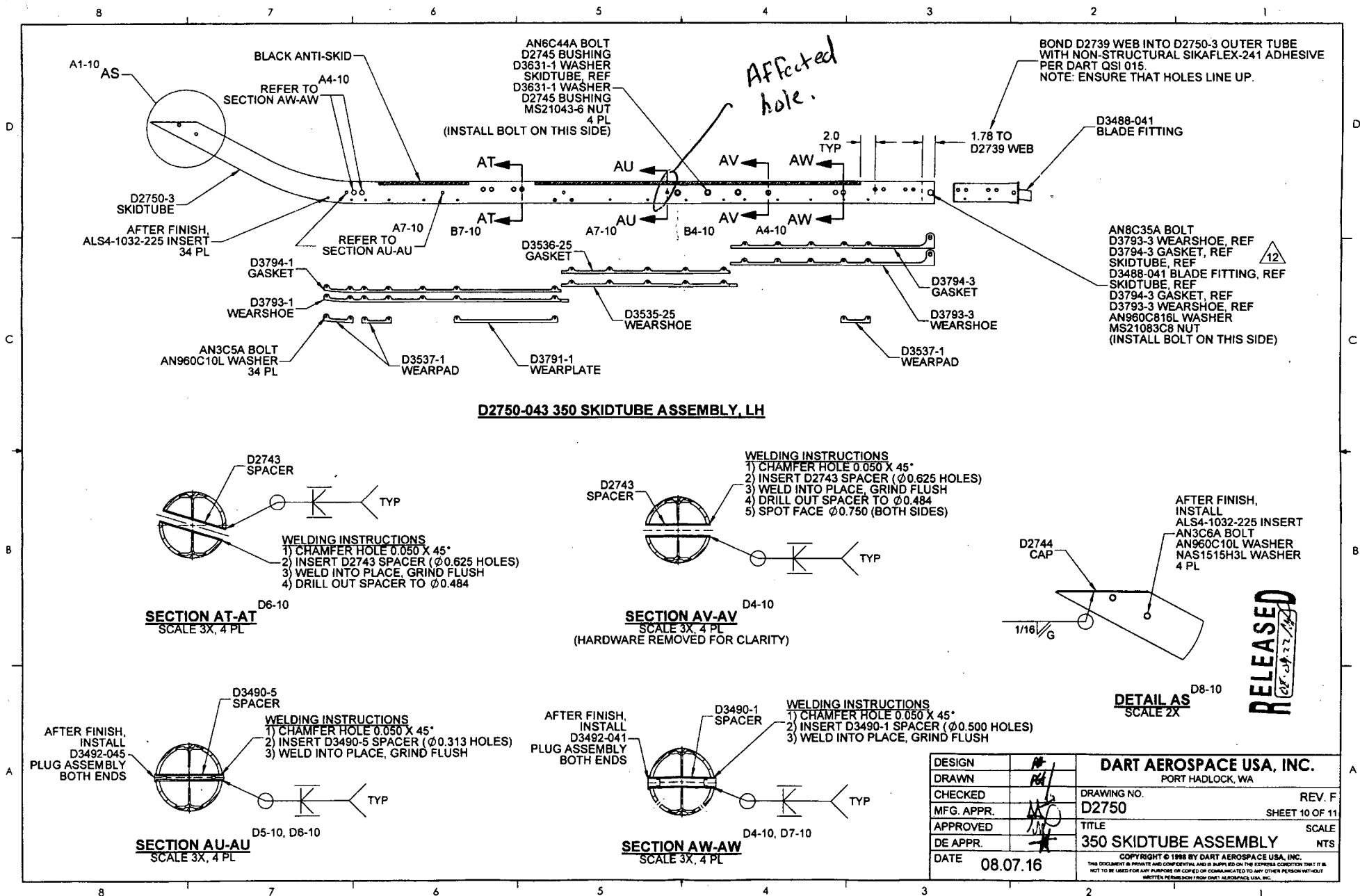
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

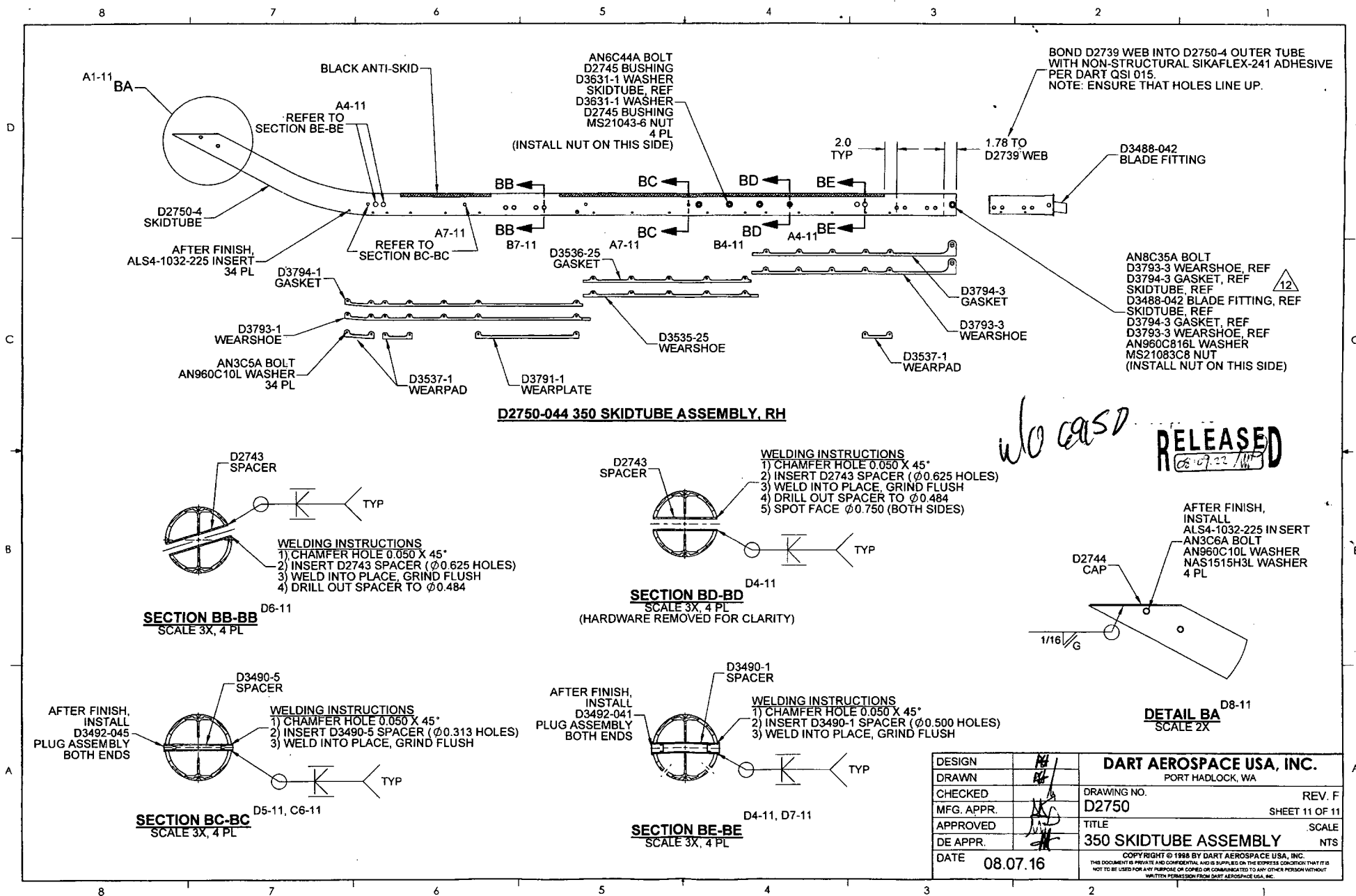
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 253

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 67621
Part number: D350 636 011
Description: 350
Welding Process: Tig~~[X]~~ Mig[]
Base material: Aluminium
Current: AC~~[X]~~ DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass~~[X]~~ fail[]
Penetration: pass~~[X]~~ fail[]

UNACCEPTABLE

Cracks: pass~~[X]~~ fail[]
Undercut: pass~~[X]~~ fail[]
Pin holes: pass~~[X]~~ fail[]
Overlap (cold lap): pass~~[X]~~ fail[]
Porosity (surface): pass~~[X]~~ fail[]
Coloration: pass~~[X]~~ fail[]

Qualifier Rob Green Date of Test Coupon 11.05.19
Welder Barclay Elliot Date of Test Coupon 11.05.19

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

